Amendments to the Claims

Claim 1 (Currently amended) A method for the transfer of message packets [through a communication adapter] <u>in a computing environment having a plurality of nodes in communication with one another via a switched network</u> , said method comprising the steps of:

  <u>providing a communication adapter between an autonomous data processing unit having nodes and said switched network</u>,

 receiving said packets through an interface connected to [a] <u>at least one of said</u> data processing [node] <u>nodes</u> whose memory is the source of information to be transferred and

 processing message packet header information with a programmable instruction processor capable of recognizing commands and data for transfer of information within said message packet directly to memory locations within a targeted node.

Claim 2 (new claim) The method of claim 1, wherein a plurality of communication adapters are provided.

Claim 3 (new claim) The method of claim 2, wherein each adapter is provided with a mechanism for time of day synchronization.

Claim 4 (new claim) The method of claim 3, wherein each adapter is provided with at least one mechanism that establish back up adapter unit such that any remaining adapter unit can take over communications operations of a failed adapter unit.

Claim 5 (new claim) The method of claim 1, further comprising the step of using a channel for establishing communication between initiating and terminating nodes.

Claim 6 (new claim) The method of claim 5, wherein a plurality of channels are used.

Claim 7 (new claim) The method of claim 6, wherein a mechanism is provided for each channel such that said channels can also communicate with one another in a direct memory to memory fashion.

Claim 8 (new claim) The method of claim 7, wherein said mechanism also allows a variety of hardware tasks to be assigned and performed by each of channels.

Claim 9 (new claim) The method of claim 8, wherein each channel has associated with it a specific register.

Claim 10 (new claim) The method of claim 9, wherein said specific register is a channel state register.

Claim 11 (new claim) The method of claim 10 wherein said channel register associated with a specific channel can only be accessed by a task associated with that specific channel.

Claim 12 (new claim) The method of claim 11 wherein any value placed in the channel state register is immediately registered only by the other hardware tasks associated with the same channel.

Claim 13 (new claim) The method of claim 10 wherein only those tasks that associated with a specific channel can access said channel state register for that channel.

Claim 14 (new claim) The method of claim 10 wherein said channel state register can only be accessed by said task associated with it.

Claim 15 (new claim) A system used for the transfer of message packets in a computing environment comprising:

a plurality of nodes in communication with one another via a switched network;

a communication adapter in processing communication between an autonomous data processing unit having nodes and said switched network;

an interface for receiving packets connected to at least one of said data processing nodes whose memory is the source of information to be transferred; and

a processing message packet header information having a programmable instruction processor capable of recognizing commands such it can transfer data and information within said message packet directly to memory locations within a targeted node.

Claim 16 (new claim) The system of claim 15, wherein a plurality of communication adapters are provided.

Claim 17 (new claim) The system of claim 16, wherein each adapter is provided with at least one mechanism that establish back up adapter units such that any remaining adapter unit can take over communications operations of a failed adapter unit.

Claim 18 (new claim) The system of claim 15, further comprising a plurality of channel used for establishing communication between initiating and terminating nodes.

Claim 19 (new claim) The system of claim 18, wherein communication between one task and another task is directed by a specialized register which is directly accessible by the associated tasks.

Claim 20 (new claim) The system of claim 19, wherein said specialized register is a channel state register which associated said register to each specific channel.

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